

CONTACT DETAILS:

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*** CV (max 1300 characters):**

Born in Sarajevo'62, received B.S., M.S., and Ph.D. degrees from Belgrade University, in '85, '87, and '89. From Nikola Tesla Institute, joined ESCD Laboratory of Emerson Electric, St. Louis, in '88, conducted research in the field of SR drives and sensorless drives. With Vickers Electric since '91, his R/D team developed motion control products for industrial robots in use at major EU car manufacturers. Currently professor at the University of Belgrade, teaching digital control of electrical drives, power conversion, electrical machines, and el. vehicles. Established the Laboratory for digital control of electrical drives. His students won the 1'st prize at the IEEE "FEC" contest in 2005. He was visiting professor, lecturer at postgraduate courses, and gave seminars at technical institutes and universities in Boston (NEU), Novi Sad, in Italy (TO, GE), and Banja Luka. His over 100 scientific papers are cited in leading international publications, including Wiley Encyclopaedia of E&E Engineering. Author of patented technical inventions. Member of the Serbian national academy of engineering, adjunct professor at the North Eastern University (Boston), IEC TC9 member, IEEE and IEE reviewer, member of the of the Belgrade University Council, Head of the Power engineering department.

*** RESEARCH ACTIVITES (max 1700 characters):**

Research activities at his Lab. include electrical machines, motion control (MC) technologies applied to general automation, embedded DSP solutions in power electronics and electrical drives (PED), power conversion, clean and renewable energy technologies. In the field of electrical machines, design and control resulting in an increased efficiency and reliability, multiphase machines, SR machines, and the application of DSP technologies in monitoring and diagnostics of large machines. MC research is focused on transmission-less structures with linear motors, and performance improvement of conventional robots by anti-resonant controllers, suppressing the mechanical resonance in compliance-critical, flexible transmission. Proprietary control & tuning for MC systems extend the bandwidth, reduce stiffness and allow for shorter cycles. His R/D activity in PED include the motor-converter integration, efficiency optimized control, switching techniques reducing the insulation stress, state reconstruction for sensorless drives and parameter estimation focused on efficiency, robustness and diagnostics. Efforts in the field of energy conversion include novel topologies and embedded control providing reduced conversion losses, and concede savings on iron, copper and power semiconductors. His interest include electrostatic precipitation (ESP) applied to filtering pollution gasses released by power plants and industry. Proprietary controller ETF-2005 improves collection, energy efficiency, includes coordinated corona control and rapping, includes spectrum based flashover supression and back corona elimination, and comprises the adaptation mechanism with respect to the fuel parameters.

*** keywords (max 15 words, separated with comma):**

power conversion, electrical machines, embedded control, motion control, industry automation, servo drives, multiaxis drives, digital control, DSP, multilevel and multiphase drives, electrostatic precipitation, energy efficiency, using Si/SW & save on Fe/Cu

Most relevant publications, patents and etc. (max. 10):

- * 1** S. N. Vukosavic: "Third harmonic comutation control system and method", USA Patent 4912378, March 27., 1990, applied in electronic washing machines, Emerson EI.Co.
- * 2** S.N.Vukosavic, E.Levi; Robust DSP-based efficiency optimisation of a variable speed induction motor drives, IEEE Trans. on Industrial Electronics, Vol. 50, No. 3, 2003.
- * 3** S.N.Vukosavic, E.Levi; A method for transient torque response improvement in optimum efficiency induction motor drives, IEEE Trans. on Energy Conversion, Vol. 18, No. 4, 2003
- * 4** S. N. Vukosavic, A. M. Stankovic, "Sensorless induction motor drive with a single DC-link current sensor and instantaneous active and reactive power feedback", IEEE Transactions on Industrial Electronics, Vol. 48, No. 1, February 2001, pp 195-204
- * 5** S.Vukosavic, E.Levi, V.Vasic; Loss function on-line identification for the induction motor drives, Electronics, vol. 7, no. 2, 2003, pp. 21-31.
- * 6** S.N.Vukosavic, M.R.Stojic: "On-Line Tuning of the Rotor Time Constant for Vector-Controlled Induction Motor in Position Control Applications", IEEE Trans. on Ind. Electronics, Vol. 40, No.1, February 1993, pp. 130-138
- * 7** S. N. Vukosavic, M. R. Stojic, "Reduction of Parasitic Spectral Components of Digital Space Vector Modulation by Real-Time Numerical Methods", IEEE Trans. on Power Electronics, February 1995, pp 94-102
- * 8** S. N. Vukosavic, M. R. Stojic, "Suppression of Torsional Oscillations in a High-Performance Speed Servo Drive", IEEE Trans. on Industrial Electronics, Vol. 45, No. 1, February 1998, pp 108-117
- * 9** S.N.Vukosavic, M.Jones, E.Levi, J.Varga; Rotor flux oriented control of a symmetrical six-phase induction machine, Electric Power Systems Research, vol. 75, no. 2-3, 2005, pp. 142-152. 2005.
- * 10** S.Vukosavic, V.R.Stefanovic: "SRM Inverter Topologies: A Comparative evaluation", IEEE Trans. on Ind. Applications, Vol. 27, No. 6, Nov/Dec. 1991, pp 1034-1047

*** date:**

15. may 2007.